TITLE OF THE STUDY:

Role of Narrow Band Imaging in predicting the malignant potential of laryngeal structural lesions in subjects presenting with hoarseness for more than three weeks in comparison with histopathological examination in a tertiary care centre

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OBJECTIVES:

To categorize laryngeal structural lesions based on Narrow Band Imaging(NBI) into either benign or malignant lesions, based on the intraepithelial papillary capillary loop pattern [IPCL] and to analyse the predictability of their malignant potential with respect to Histopathological examination (HPE).

METHODS:

Two hundred adult subjects who came to OPD with voice change for more than three weeks underwent NBI after informed consent. Those who had structural lesions underwent HPE. The NBI images were independently analysed by four observers and their results were compared with HPE.

RESULTS:

Out of the two hundred subjects, one hundred and sixty eight of them had structural lesions. Out of them eighty four underwent histopathological examination. These results were compared with the IPCL patterns observed individually by four observers. The sensitivity varied between 53.6% to 72.4%, the specificity varied between 72% to 85.4%,the positive likelihood ratio was 2.59 to 4.4, and thenegative likelihood ratio was 0.372 to 0.557. The diagnostic odd’s ratio was 5.7 to 11.1.

The Receiver Operating Characteristics curve for IPCL showed area under the curve for the four observers varied between 0.72 to 0.83 suggestingreasonable differentiating ability.

Scores 1-3 of the IPCL pattern have a good sensitivity to rule out malignancy while the scores of IPCL patterns 5a to 5c have good specificityto rule in malignancy.

Scores in-between need additional diagnostic tests or clinical expertise to make a management decision.

Conclusion:

Narrow Band Imaging is a novel diagnostic tool which enabled us to differentiate benign from malignant lesions and to diagnose potentially malignant lesions based on Intraepithelial Papillary Capillary Loop (IPCL) patterns in laryngeal lesions.

Key words:

NBI – Narrow Band Imaging

IPCL – Intraepithelial Papillary Capillary Loop patterns

Laryngeal Malignancies.